CLAIMS

1. A digital radio frequency (RF) circuit (100) that creates a signal in a desired range in a frequency spectrum, comprising:

circuitry (104) that produces a first sample data modulated signal (105) having a first frequency and a first sample data clock rate;

an up-sampler modulator (108) that receives the first sample data modulated signal (105) and produces a second sample data modulated signal (109) having a second frequency and a second sample data clock rate; and

circuitry (112) that receives the first sample data modulated signal (105) and the second sample data modulated signal (109) and delivers one of the first sample data modulated signal (105) and the second sample data modulated signal (109) for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment.

2. The RF circuit (100) set forth in claim 1, comprising a first filter (106) having first filter characteristics that receives the first sample data modulated signal (105) and a second filter (110) having second filter characteristics that receives the second sample data modulated signal (109).

3. The RF circuit (100) set forth in claim 2, wherein at least one of the first filter (106) and the second filter (110) comprises a finite impulse response (FIR) filter.

4. The RF circuit (100) set forth in claim 1, wherein the first frequency is less than one half of a frequency of a digital data stream on which the first sample data modulated signal is based.

5. The RF circuit (100) set forth in claim 2, wherein the output of the first filter (106) and the output of the second filter (110) are delivered to the circuitry (112) that receives the first sample data modulated signal (105) and the second sample data modulated signal (109).

6. The RF circuit (100) set forth in claim 5, wherein the first filter (106) and the second filter (110) each comprise a finite impulse response (FIR) filter.

7. The RF circuit (100) set forth in claim 6, wherein the first filter (106) comprises an 80 MSps FIR filter and the second filter (110) comprises a 160 MSps FIR filter.

8. The RF circuit (100) set forth in claim 1, wherein the RF circuit comprises a portion of an orthogonal frequency division multiplexing (OFDM) transceiver (10).

9. A digital radio frequency (RF) transceiver (100) that creates a signal in a desired range in a frequency spectrum, comprising:

a transceiver circuit (104) that produces a first sample data modulated signal (105) having a first frequency and a first sample data clock rate;

an up-sampler modulator (108) that receives the first sample data modulated signal (105) and produces a second sample data modulated signal (109) having a second frequency and a second sample data clock rate; and

means for receiving (112) the first sample data modulated signal (105) and the second sample data modulated signal (109) and delivering one of the first sample data modulated signal (105) and the second sample data modulated signal (109) for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment.

10. The RF transceiver (100) set forth in claim 9, comprising a first filter (106) having first filter characteristics that receives the first sample data modulated signal (105) and a second filter (110) having second filter characteristics that receives the second sample data modulated signal (109).

11. The RF transceiver (100) set forth in claim 10, wherein at least one of the first filter (106) and the second filter (110) comprises a finite impulse response (FIR) filter.

12. The RF transceiver (100) set forth in claim 9, wherein the first frequency is less than one half of a frequency of a digital data stream on which the first sample data modulated signal (105) is based.

13. The RF transceiver (100) set forth in claim 10, wherein the output of the first filter (106) and the output of the second filter (110) are delivered to the means for receiving the first sample data modulated signal (105) and the second sample data modulated signal (109).

14. The RF transceiver (100) set forth in claim 13, wherein the first filter (106) and the second filter (110) each comprise a finite impulse response (FIR) filter.

15. The RF transceiver (100) set forth in claim 14, wherein the first filter (106) comprises an 80 MSps FIR filter and the second filter (110) comprises a 160 MSps FIR filter.

16. The RF transceiver (100) set forth in claim 9, wherein the RF transceiver comprises a portion of an orthogonal frequency division multiplexing (OFDM) transceiver (10).

17. A method of processing signals, comprising:

creating a first sample data modulated signal (105) having a first frequency and a first sample data clock rate;

up-sampling the first sample data modulated signal (105) to produce a second sample data modulated signal (109) having a second frequency and a second sample data clock rate; and

selecting between the first sample data modulated signal (105) and the second sample data modulated signal (109); and

delivering one of the first sample data modulated signal (105) and the second sample data modulated signal (109) for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment.

18. The method set forth in claim 17, comprising filtering the first sample data modulated signal (105) and the second sample data modulated signal (109) using different filtering characteristics.

19. The method set forth in claim 17, comprising filtering the first sample data modulated signal (105) and the second sample data modulated signal (109) using finite impulse response filters (FIRs) (202, 204) having different filtering characteristics.

20. The method set forth in claim 17, wherein the recited acts are performed in the recited order.

AMENDED CLAIMS

[received by the International Bureau on 10 February 2004(10.02.2004), claims 9-16 cancelled; remaining claims unchanged]

CLAIMS 9-16 CANCELLED

17. A method of processing signals, comprising:
creating a first sample data modulated signal (105) having a first frequency and a first sample data clock rate;
up-sampling the first sample data modulated signal (105) to produce a second sample data modulated signal (109) having a second frequency and a second sample data clock rate; and
selecting between the first sample data modulated signal (105) and the second sample data modulated signal (109); and
delivering one of the first sample data modulated signal (105) and the second sample data modulated signal (109) for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment.

18. The method set forth in claim 17, comprising filtering the first sample data modulated signal (105) and the second sample data modulated signal (109) using different filtering characteristics.

19. The method set forth in claim 17, comprising filtering the first sample data modulated signal (105) and the second sample data modulated signal (109) using finite impulse response filters (FIRs) (202, 204) having different filtering characteristics.

20. The method set forth in claim 17, wherein the recited acts are performed in the recited order.